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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,705

07/08/2005

James W Green

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38107

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02/18/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER

ROZANSKI, MICHAEL T

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

02/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,705	Applicant(s) GREEN, JAMES W	
	Examiner MICHAEL T. ROZANSKI	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/8/05, 4/23/08</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US 6,836,529) in view of Forbes et al (US 5,913,308).

Li et al discloses a system and method of diagnostic imaging with reduced x-ray exposure to the scan subject during scanning. A set of cardiac signals or other motion (i.e. respiratory motion) related signals are acquired. Specifically, CT imaging system 10 is used to acquire imaging data of a subject and reconstructor 34 reconstructs the acquired imaging data into an image representation (see Figures 1 and 2).

Simultaneous with the initiation of a scan, a set of ECG signals are acquired from a set of ECG electrodes (not shown) affixed to a torso region of the patient, wherein a torso includes both the thorax and abdomen regions. The ECG signals detect motion signals including diastolic and systolic phases of the cardiac region of the patient (col 4, lines 61-67). Li et al does not explicitly describe a meter that measures a time-varying electrical parameter across the electrode pair, although Li et al does disclose that the ECG signals are acquired at 206 and transmitted to controller 26 or computer 36 for analysis. Nevertheless, it is inherent that Li et al would include a device that measures

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a time-varying electrical parameter (i.e. voltage, which varies over time in response to motion), whether it be the part of the controller or computer, or another intermediate element.

Li et al describe obtaining cardiac or respiratory motion signals from electrodes during acquisition of imaging data, but do not disclose extracting or computing a time-varying respiration characteristic the measured motion signals. However, Forbes et al teach of an apparatus and method for determining respiratory effort from a patient. The invention includes acquiring an ECG signal cardiac signal and respiratory signal. A processor processes the signal to extract information relating to the respiratory portion of the signal, wherein the respiratory effort is derived entirely from the ECG signal (see Abstract). Therefore, the respiration characteristic is based on the measured electrical parameter. It would have been obvious to modify Li et al, to include processing the signal to extract/compute a time-varying respiratory characteristic as taught by Forbes et al, in order to obtain information regarding a patient's respiratory status which is important in many medical applications (see col 1, lines 13-24, wherein respiratory information is important to gate image or ECG acquisition, since respiration causes movement of the heart within the thorax).

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US 6,836,529) and Forbes et al (US 5,913,308) as applied to claims 1, 13, and 19 in view of Sivard (US 5,355,894).

Li/Forbes substantially disclose the invention as claimed but do not disclose applying voltage/current to the subject. However, Sivard teach a method for generating a signal corresponding to the respiration volume per unit of time of a patient including a stimulation pulse generator 1 having a first output terminal 2 connected to a stimulation electrode (col 3, lines 38-67). It would have been obvious to the skilled artisan to modify Li/Forbes, to include application of a voltage/current as taught by Sivard, in order to permit particular respiratory measurements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. ROZANSKI whose telephone number is (571)272-1648. The examiner can normally be reached on Monday - Friday, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric F Winakur/
Primary Examiner, Art Unit 3768

MR